Amendment to the Claims:

1. (Previously presented) A parallel magnetic resonance imaging method comprising:

a) exciting core magnetization in the examination volume of an MR device by generating at least one HF pulse;

b) parallel recording of two or more MR signals from the examination volume via two or more receiving channels of the MR device using an HF coil arrangement comprising a number of coil elements in a predetermined geometric arrangement, which is larger than the number of receiving channels, the respective MR signal on each receiving channel being formed by weighted superimposition of coil signals of the individual coil elements; and

c) reconstructing an MR image from the recorded MR signals, the MR signals being combined with one another taking into account the effective spatial sensitivity profiles associated with the individual receiving channels.

2. (Previously presented) A method as claimed in claim 1, wherein the weighting factors for the weighted superimposition of the coil signals on the individual receiving channels is calculated such that the image noise in predeterminable image points or image areas of the reconstructed MR image is minimal.

3. (Previously presented) A method as claimed in claim 2, wherein the weighting factors are calculated according to the spatial sensitivity profiles of the individual coil elements and their noise behavior.

4. (Previously presented) A method as claimed in claim 2, wherein the effective spatial sensitivity profile associated with each receiving channel is calculated from the spatial sensitivity profiles of the individual coil elements of the HF coil arrangement according to the weighting factors for the weighted superimposition of the coil signals on the respective receiving channel.

5. (Previously presented) A magnetic resonance (MR) device comprising:

a main field coil for generating a homogeneous, static magnetic field in an examination volume;

a weighting mechanism;

an HF coil arrangement including a plurality of coil elements, the coil elements being connected to two or more receiving channels via the weighting mechanism such that an MR signal is generated on each receiving channel comprises a weighted superimposition of coil signals received from the examination volume from the individual coil elements according to predeterminable weighting factors;

a reconstruction and visualization mechanism for processing and displaying the MR signals; and

a control mechanism for controlling the weighting mechanism and the reconstruction and a visualization mechanism, the control mechanism implementing a method according to claim 1 using the MR device.

6. (Previously presented) A magnetic resonance device as claimed in claim 5, the number of coil elements of the HF coil arrangement being greater than the number of receiving channels.

7. (Previously presented) A magnetic resonance device as claimed in claim 5, the weighting device comprising signal processors.

8. (Previously presented) A magnetic resonance device as claimed in claim 5, wherein the control mechanism is integral with the reconstruction and visualization mechanism of the MR device.

9. (Currently amended) A computer readable medium comprising a computer program of instructions executable by a machine to perform a method ~~A computer program for~~ of optimizing the use of an HF coil arrangement including a plurality of coil elements for parallel MR imaging, wherein the computer program calculates weighting factors for the formation of two or more MR signals by weighted

superimposition of coil signals of the individual coil elements in such a way that the image noise in predeterminable image points or image areas of an MR image reconstructed from the MR signals is minimal.

10. (Currently amended) A computer readable medium ~~program~~ as claimed in claim 9, wherein the weighting factors are calculated according to the spatial sensitivity profiles of the individual coil elements and their noise behavior.